



<http://www.scientificcomputing.com/News-HPC-The-Truth-about-Watts-and-Flops-062910.aspx>

Marketwatch:

## The Truth about Watts and Flops

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Argonne saves up to \$25,000/month leveraging Chicago's climate to cool Blue Gene/P.

HPC users are not tree-huggers. They apply energy savings not to shrink their carbon footprints, but to buy more computing power. One site is erecting a 100-megawatt data center, with a 250-megawatt center to follow. That's enough to power a mid-sized city.

Two IDC studies done with Avetec showed that most HPC centers consider "green IT" critical, but few have strong mandates or metrics for boosting energy efficiency. Yet, governments around the world will resist funding exascale (10<sup>18</sup> floating point operations per second) supercomputers, due out in 2017-2018, unless their power consumption is sharply reduced from the projected 120-130 megawatts. That level also might not be consistently available from power companies, forcing datacenters to "go off the grid" and build small reactors.

Without a serious breakthrough, a day might come when the biggest supercomputers reside in areas of the U.S. or the world where energy is most abundant and affordable, and top scientists and engineers migrate to these areas to use these computational tools. And, in case you were wondering, the studies showed that, when it comes to energy efficiency, HPC and enterprise datacenters are more alike than different.

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